

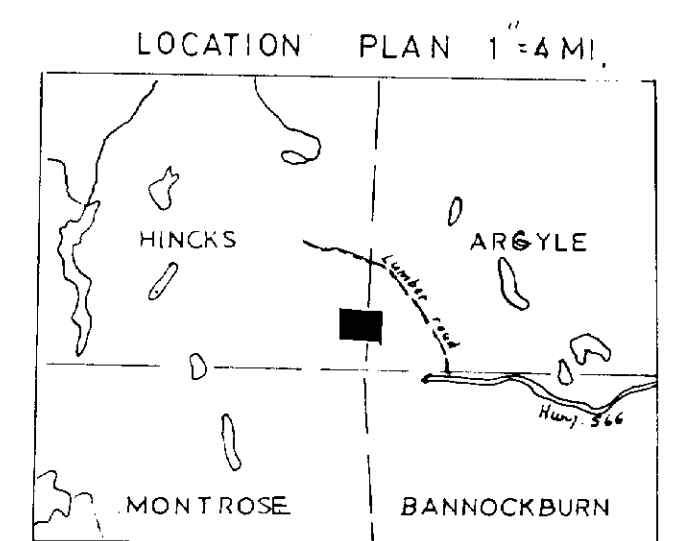
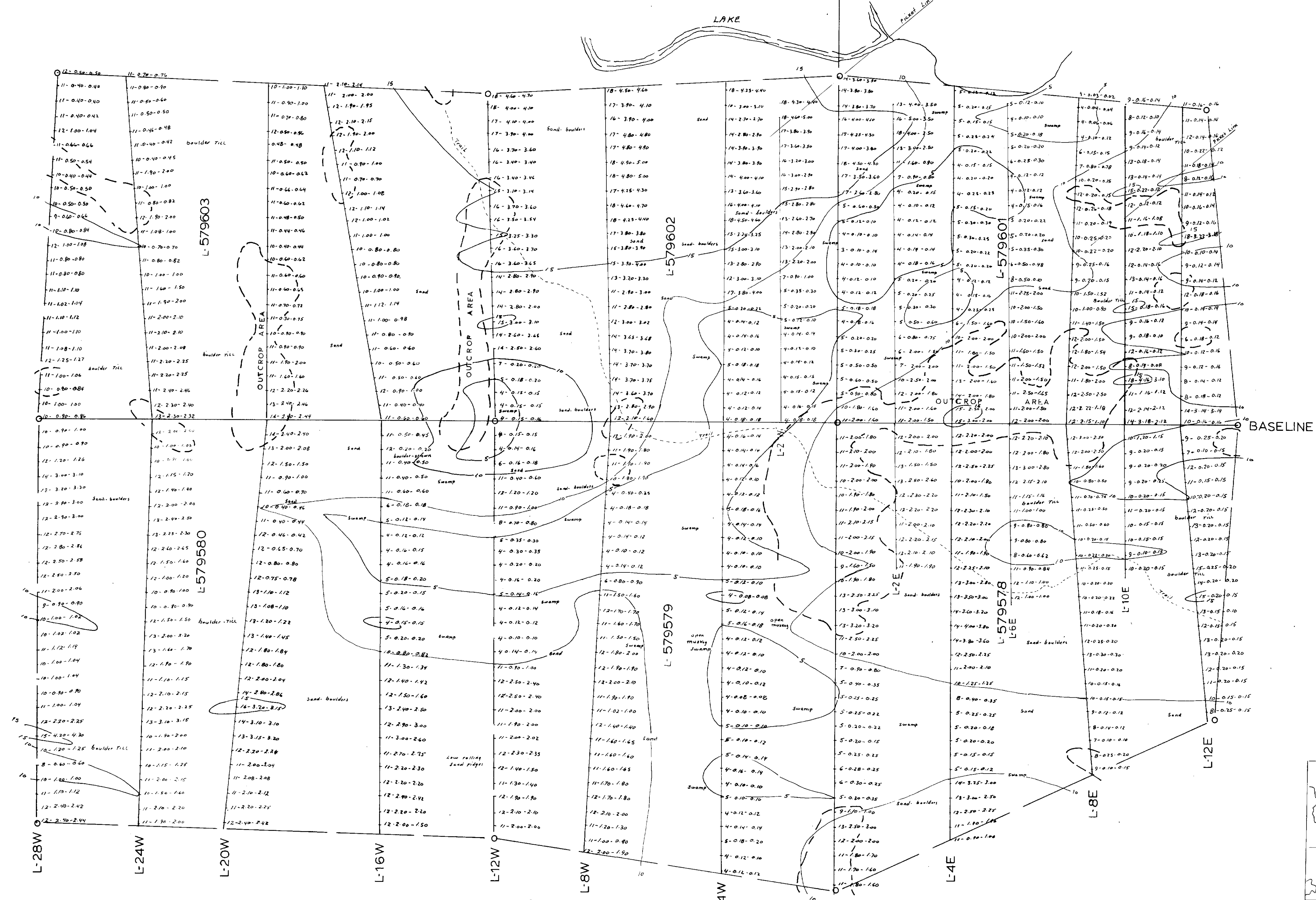
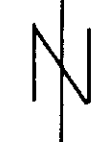
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200

DEVELOPED BY R. KALTWASSER

NOV 26 1984
 GEOLOGY & TOPOGRAPHIC PLAN
 ONT. 1"=200' MANVILLE CANADA INC.
 R. KALTWASSER
 MCGILL OR ARGYLE & HINCKS TWP.



RADIOMETRIC SURVEY PLAN

READINGS IN C.P.S.

TOTAL	U+TH	TH
10	0.06	0.04

2758 3



HINCKS TWP.
ARGYLE TWP.

MANVILLE CANADA INC.

INST. - GIS-2 SHARPE SERIAL NO. 710123
OPERATOR K. GRAY

NOV 26 1984



42A02SW8417 2.7583 ARGYLE

010

REPORT ON GEOLOGICAL AND RADIOMETRIC SURVEYS

MCGILL GROUP OF CLAIMS

ARGYLE AND HINCKS TOWNSHIPS

LARDER LAKE MINING DIVISION

PROVINCE OF ONTARIO

by

F.J. Evelegh

RECEIVED

DEC 18 1984

MINING LANDS SECTION

Manville Canada Inc.
Exploration Department

September 19, 1984
Matheson, Ontario



42A02SW8417 2.7583 ARGYLE

010C

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Structures	6 & 7
Economics	7
Radiometric Survey	7 & 8
Conclusions and Recommendations	8 & 9

- 0 - 0 - 0 -

List of Maps Accompanying this Report:

- Geology and Topographic Plan - Scale 1" = 200'
- Radiometric Survey Plan - Scale 1" = 200'
- Legend Sheet

- 0 - 0 - 0 -

REPORT ON GEOLOGICAL AND RADIOMETRIC SURVEYS
MCGILL GROUP OF CLAIMS
ARGYLE AND HINCKS TOWNSHIPS
LARDER LAKE MINING DIVISION
PROVINCE OF ONTARIO

Introduction:

The following report describes the geological and radiometric surveys which were carried out during the latter part of June and early part of July, 1984, on six mining claims recorded in the name of Manville Canada Inc. and located in Argyle and Hincks Townships, Larder Lake Mining Division.

Cutting and chaining of the in-between picket lines in the north and east parts of the property were completed by Company personnel based at the Matheson office.

Geological mapping was conducted by R.F. Kaltwasser, Senior Fieldman with Manville Canada Inc., and the writer, assisted by D. Brideau, Junior Fieldman, who stripped the moss from outcrops and traversed overburden-covered areas.

Radiometric surveying was carried out by K. Gray, Fieldman and geophysical operator with the Company assisted by B. Haley, student. A Sharpe's GIS-2 Gamma Ray Integrating Spectrometer was used for this work. The grid established in 1981 for the magnetic and electromagnetic surveys and the detail picket lines was used for the radiometric program.

Interpretation of the data and compilation of the report were the responsibility of the writer, Exploration Manager with Manville Canada Inc., based at Matheson, Ontario.

Property:

The claims surveyed are contiguous, are situated in Argyle and Hincks Townships and are numbered L-579578 to 579580 inclusive and L-579601 to 579603, inclusive.

These claims were staked during the latter part of November and recorded on December 5th, 1980. Transfer to Johns-Manville Canada Inc. was made in May, 1981. During mid-1983 the Group was transferred to Manville Canada Inc.

The property comprises approximately 240 acres.

Location and Accessibility:

The McGill Group straddles the north-south Township line between Argyle and Hincks and is located 3/4's of a mile north of the Bannockburn-Montrose boundaries.

Location and Accessibility: (cont'd)

Access is provided by a bush road which branches off from Highway No. 568 at a distance of approximately sixteen miles west of Matachewan. The property is situated two miles north of this highway.

Topography:

The claims in Argyle Township are characterized by a broad ridge sloping gently towards the Whitefish River. A large, northerly trending cedar swamp fills the central portion of the property. Drainage is to the northeast. The west central part is covered by a large hill which rises several hundreds of feet above the swamp elevation.

Sand and boulder till with low, scattered rock outcrops occur on the higher ground. Forest cover is mainly balsam, now partially killed by the spruce budworm, with thick hazel brush undergrowth.

Previous Work:

In 1919 the Geological Survey of Canada published Memoir 115 entitled "Geology of Matachewan District, Northern Ontario" compiled by H.C. Cooke. Gold occurrences discovered in the area to the east of Hincks-Argyle Townships are described in this report.

A report on the "Bannockburn Gold Area" which includes the McGill claims, was compiled by H.C. Rickaby and published in the Forty-First Annual Report of the Ontario Department of Mines in 1932. Map No. 41a, on a scale of one inch equals 3/4's of a mile, accompanies this report. Showings on the McGill claims are described on pages 19 and 20 of this report.

Aeromagnetic Maps on scales of one inch equals 1/2 and one mile have been published jointly by the O.D.M.-G.S.C. These plans have been used extensively for interpreting the ground magnetometer survey results.

Map No. 2205 - The Timmins-Kirkland Lake Sheet of the Geological Compilation Series, on a scale of one inch equals four miles, also covers the area.

In 1974 the Ontario Department of Mines issued Preliminary Maps Nos. 1017 and 1018 - Airborne Electromagnetic and Total Intensity Magnetic Survey - for Hincks and Argyle Townships. These plans give excellent detail over the McGill claims.

During the summer of 1981 a north-south grid, at 400' spacing, was established on the McGill claims and magnetic and electromagnetic surveys completed. The results of this work were compiled in a report

Previous Work: (cont'd)

which was submitted to the Ministry of Natural Resources for assessment purposes in November, 1981.

Three diamond drill holes were completed during October, 1983, for a total of 326 feet. A Winkie rig, owned by Manville Canada Inc., was used for this work. Drilling was concentrated in the east-central part of the claims to test quartz-filled fracture zones for gold mineralization. Assays ranged from nil to 0.02 ozs.

Line Cutting and Chaining:

The base line was started at the No. 1 post of claim L-579579 on the Argyle-Hincks Townships boundary and cut and chained to the east and west to the limits of the group. Right-angled offset lines, spaced at 400' intervals, were cut and chained to the north and south of the base line to the boundaries of the McGill property. Marked pickets were established every 100' along these offset lines by chainage.

Note that the north and south claim boundaries were cut out and the ends of the picket lines tied in by chainage, to increase the accuracy of the grid map.

Total miles of base (0.80), tie (1.57) and picket lines (5.47) cut and chained under contract to Ingamar Explorations was 7.84.

For the purposes of the detailed geological mapping and additional magnetic-electromagnetic surveying picket lines were cut and chained between the existing grid from 4W to 12E in the north and east parts of the claims. A total of 1.14 miles of picket lines was established during the 1984 program.

General Geology:

The Geology of Argyle and Hincks Townships is described in The Forty-First Annual Report of the Ontario Department of Mines compiled by H.C. Rickaby in 1932. Several reports on the Matachewan Area have been issued since that date, however, the majority cover the Townships to the east of Argyle.

The following "Table of Formations" has been taken from page 5 of Geological Report 51 on the Matachewan Area compiled by H.L. Lovell and published by the O.D.M. in 1967.

Table of Formations

Cenozoic:

Recent : Swamp, and stream deposits
Pleistocene: Sand, gravel, clay

Unconformity

PRECAMBRIAN:

Proterozoic:

Mafic Intrusive Rocks (Nipissing):
Diabase

Intrusive Contact

Huronian:

Cobalt Group (Gowganda Formation):
Argillaceous and arkosic quartzite, conglomerate,
argillite, arkose

Unconformity

Archean:

Mafic Intrusive Rocks (Matachewan):
Diabase, undifferentiated

Intrusive Contact

Silicic Intrusive Rocks (Algoman):

Granite; granodiorite and granitic gneiss; syenite
porphyry and coarse-grained syenite; syenite; mafic
syenite, lamprophyre, quartz diorite and diorite

Intrusive Contact

Ultramafic and Mafic Intrusive Rocks (Haileyburian):
Serpentinite, diorite

Intrusive Contact

Sedimentary Rocks (Timiskaming):

Conglomerate; greywacke and interbedded argillite
and quartzite; arkose

Unconformity

Volcanic Rocks (Keewatin):

Basalt and andesite; bleached, silicified, sericitized
volcanic agglomerate; rhyolite and dacite; carb-
onatized and amygdaloidal volcanic rocks; amphibolite.

As part of the 1981 exploration program on the McGill claims reconnaissance-type mapping of the topography and rock outcrops was conducted by R. Kaltwasser. Exposures in the northeast part of the property are mainly quartz-feldspar porphyry locally cut by quartz fractures. The volcanics, which occur to the southwest, range from intermediate to basic types, and have a high magnetite content. Considerable percentages of disseminated pyrite were noted in several of the outcrops. Trend of the

General Geology: (cont'd)

formations is northwesterly with moderate to steep dips to the northeast.

A sizeable diabase dike, also striking to the northwest, has been mapped on claim L-579603 in Hincks Township.

Geological Survey:

During the summer of 1981 prospecting and reconnaissance-type geological mapping were carried out on the McGill Group. At that time grab samples were collected from quartz-filled fracture zones in the porphyry and volcanics. Assay results ranged up to 0.08 ozs. gold and 0.32 ozs. silver.

Detailed geological mapping and further prospecting were conducted over the outcrop areas on the property during June, 1984. The results of this work are shown on the accompanying Geologic and Topographic Plan on a scale of 1" = 200'.

Rock types, structures and economic geology are described in the following paragraphs.

Keewatin volcanic flow rock-interbedded basalts and andesites - underlie the greater part of the claims and outcrop in the east-central and northwest sections. These thick flows strike in a northwesterly direction (N45° to 55°W) and dip at 70° to 75° to the northeast.

The basalts weather dark grey to black, are dark green in colour on the fresh surface, are generally massive, fine to medium grained but have some narrow sections with an almost gabbroic appearance. Narrow silicified sections in fracture zones are mineralized with pyrite and show epidote alteration which gives a light green, streaky appearance to the rock.

A magnetite-rich band of metavolcanics - mainly basalt - which ranges in width from 250 to 500 feet, has been sharply defined by detailed magnetic surveying striking in a northwesterly direction through the northeastern part of the property. This band is in contact with granite porphyry to the northeast and a series of non-magnetic andesites and basalts to the southwest.

These latter formations are exposed in scattered outcrops in the southeast and extreme northwest parts of the claims. Small, poorly developed pillows with narrow rims and apparently facing northeast were observed on several of the bedrock exposures. The andesites are massive, fine to medium grained, grey-green on the weathered and dark green on the fresh surface. A few variolitic sections with light-coloured, oval

Geological Survey: (cont'd)

shaped, felsic blebs were noted during the mapping.

The extreme northeastern section of the property is underlain by a sizeable stock of granite and granite porphyry. These rocks are comprised of orthoclase and albite with a minor amount of hornblende and varying amounts of quartz which gives a range in type from a granite to a quartz-feldspar porphyry. Weathering throughout is light pink to buff; the fresh surface is predominantly pink.

Narrow, white quartz veins and stringers, which fill fracture zones, were noted in several of the outcrops. Fine pyrite and minor chalcopyrite mineralization are associated with this veining.

It should be noted that this granite porphyry stock has been mapped on the claims of Petromet Resources which adjoin Manville's holdings to the north and east. The ends of two of Petromet's picket lines are shown in the northeastern part of the accompanying maps.

Narrow, reddish-coloured feldspar and syenite porphyry dikes intrude the volcanics. These dikes have near vertical dips and strike steeply northeast and shallowly southwest. No silicification or sulphide mineralization were associated with these intrusives.

A Nipissing, quartz diabase dike has been mapped on a series of scattered outcrops in the northwestern section of the claims. This dike is part of a low, topographic feature, strikes in a steep north-westerly direction, and appears to dip vertically. The southwestern limit of the diabase abuts against a strong north-south fault zone and the continuation ? to the south is masked by overburden. Note that the results of the detailed magnetometer survey failed to outline any extension to this dike.

Structures:

Regionally, the property is reportedly on the gently folded south limb of an east-west trending syncline. Locally, faulting on the McGill Group has been sharply defined by the geologic - topographic mapping and study of aerial photographs and geophysical maps.

Two major, northeasterly trending structures have been delineated by the detailed magnetometer survey. The more westerly fault also shows clearly on the aerial photographs and extends through both the north and south boundaries of the property offsetting the magnetite-rich volcanics and granite porphyry stock. Displacement appears to be

structures: (cont'd)

in the order of 125 to 250 feet with the west side moved north. The easternmost structure forms a fault contact between the volcanics and granite porphyry stock. Note that these, and/or parallel structures, are shown on the plans of Petromet Resources.

A strong north-south fault cuts off the southeast end of the diabase dike at 12+00West on the base line. This structure is clearly defined by the geologic - topographic mapping and will, no doubt, be further delineated by the magnetometer surveying planned for the claims immediately to the north of the McGill block.

Economics:

Several old trenches were discovered adjacent to outcrop areas in both the granite porphyry and intermediate to basic metavolcanics on the higher ground on the property. This early work was apparently carried out by Mining Corporation in the early 1930's and the trenches are slumped-in, overgrown with trees, and would require cleaning out to be of any geological value.

On the northeast side of the diabase dike on picket line 16+00West blocks of carbonated volcanics with quartz veining and pyrite mineralization were discovered along the rim of an old trench. Due to the condition of the trench it was not possible to determine if the blocks were in place. A sample assayed 0.03 ozs. Au and 0.03 ozs. Ag.

Quartz-filled fracture zones in the granite porphyry, mineralized with pyrite and minor chalcopyrite, were sampled and assayed. Results showed 0.08 ozs. Au and 0.32 ozs. Ag from the zone on the base line at 9+00East, and 0.005 ozs. Au and 0.05 ozs. Ag from the zone on picket line 0+00 at 9+60 feet north of the base line.

Results from the drilling of three short Winkie holes, which tested narrow quartz veins in basaltic volcanics, showed only low gold values - up to 0.02 ozs.

Radiometric Survey:

Radiometric surveying was conducted by K. Gray during the period June 26th to July 11th, 1984. A Sharpe's GIS-2 Gamma Ray Integrating Spectrometer (Serial No. 710123) was used for this work.

Readings were recorded with the ratemeter set on the 10 scale range at an 8 second meter time constant. Counts per second were taken with the threshold control setting at 0.30 (0.30 MeV), 5.00 (1.7 MeV) and 7.65 (2.5 MeV). With the threshold control set to 0.30 nearly all

Radiometric Survey: (cont'd)

the gamma rays are counted; if the control is set to 5.00 only those due almost entirely to Uranium and Thorium will be counted, and, finally, with the setting at 7.65 only those due to Thorium will be counted.

All three counts were recorded at each station and have been plotted on the accompanying Radiometric Plan on a scale of 1" = 200'. Note that all pertinent topographic data has been marked on this map.

Stations were spaced at 50' intervals along the picket lines and a total of 2,088 readings was recorded with the probe at ground level.

Contour lines have been drawn around readings having total counts of 15.0, 10.0 and 5.0 c.p.s. in an attempt to correlate with changes in overburden and rock types.

The results of the radiometric survey show counts over the low, swampy sections of the property to range from 4.0 - 0.08 - 0.08 to 8.0 - 0.50 - 0.50 c.p.s., however, the average for the total count varies from 4.0 to 6.0 c.p.s.

In overburden- (sand, boulders, drift) covered areas believed to be underlain by the intermediate to basic metavolcanics, counts range from 9.0 - 0.15 - 0.15 to 13.0 - 3.0 - 3.0 c.p.s. Little change was recorded over bedrock exposures for all three counts. The scattered, higher total counts, up to 18.0 c.p.s., may be due to lightly buried outcrops of granite, feldspar and syenite porphyry dikes.

Over the granite porphyry stock in the northeast part of the claims total counts range from 9.0 to 18.0 c.p.s. with those over outcrops being in the order of 12.0 to 18.0 c.p.s. U + Th ranges up to 5.0 over outcrops with Th having closely equal values.

Conclusions and Recommendations:

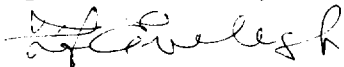
The results of the exploration programs completed to date, which include detailed magnetic, electromagnetic, geologic and radiometric surveys, prospecting, sampling, assaying and limited diamond drilling, show scattered, low gold values - up to 0.08 ozs. - on the McGill Group of claims.

Several conductors, which have been delineated in both the metavolcanics and granite porphyry, have not been checked to date.











Conclusions and Recommendations: (cont'd)

It is therefore proposed that mineralized, quartz-filled fracture zones in the granite porphyry stock, containing low gold values, be further explored by stripping, plugger work, and, if warranted, diamond drilling. The electromagnetic conductors should be tested for sulphide mineralization by surface methods, if possible, otherwise Winkie drilling should be considered.






Submitted: September 19th, 1984


by: F.J. Evelegh
Exploration Manager










GEOL. LEGEND

-  Quartz diabase, diabase.
-  Granite 5a, Syenite 5b, Feldspar porphyry 5c, Quartz feldspar 5d, Felsite 5e, Lamprophyre 5f.
-  Diorite 4a, Gabbro diabase 4b, Breccia 4e
-  Peridotite & Dunite (Serpentinized) (Asb. - Asbestos recognized)
-  Pyroxenite 4d.
-  Rhyolite fragmental lava
-  Andesite basalt pillow lava 2a, Diabasic lava 2b, Spherulitic lava 2c, Fragmental lava 2d, Tuff & chert 2e, Tale-chlorite schist 2f.
-  Greywacke 1a, Arkose 1b, Quartzite 1c, Argillite or shale 1d, Conglomerate 1e, Iron formation 1f, Chlorite schist 1g.
-  Carbonate rock
-  Quartz veins

GEO-MAG SYMBOLS




-  Contour interval 500 gammas
-  Magnetic Base Control Station
-  Geological Contact
 - G- Geological
 - M- Magnetic
 - T- Topographic
-  Fault Zone
-  Mag. Profile

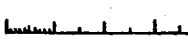

TOPO-SYMBOLS

-  Outcrop
-  Higher ground
-  Scarp
-  Muskeg or Swamp
-  Creek
-  Drill hole
-  Bush road
-  Direction in which lava flows face, indicated by shape of pillows
-  Strike - dip of schistosity



ELECTRO-MAG SYMBOLS

GEONICS 15 UNIT


-  Conductive Zone (Red)
-  Magnetic Conductor (Blue)
-  Nil
- Scale - 20 units = 1 inch
- West & South - Pos. (Red)
- East & North - Neg. (Blue)

-  Scale - 40 units = 1 inch
-  Conducting Zone -
 - S - Strong
 - M - Medium
 - W - Weak

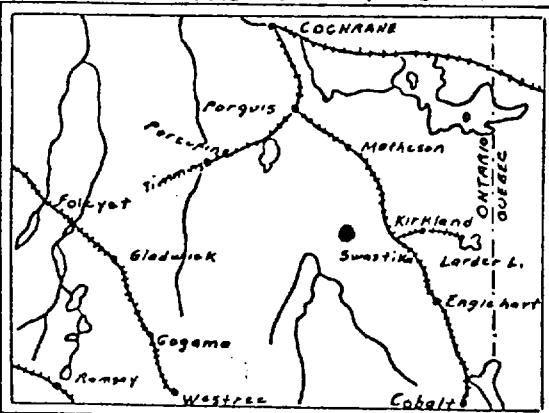
RONKA H.L. UNIT

-  In phase curve
-  Out phase curve
- NPCS Not proper coil spacing
- East - Positive. West - Negative

M'PHAR V.L. UNIT

-  Dip angle profile
- North & East - Positive
- South & West - Negative

LOCATION SKETCH - 1" = 50 Miles



LEGEND SHEET
PROVINCE OF ONTARIO

NOV 26 1984

MANVILLE CANADA INC.

#541

Ministry of Natural Resources

Report of Work (Geophysical, Geological, Geochemical and Expenditures)



File # 579578 M

900

Geological & Geophysical | Argyle & Hincks
Claim Holder(s) Manville Canada Inc.
Address P.O. Box 610, Matheson, Ontario POK 1N0
Survey Company same as above
Date of Survey (from & to) 12y 06 84 to 12y 09 84
Total Miles of line Cut 8.98
Name and Address of Author (of Geo-Technical report) F.J. Evelegh, Box 610, Matheson, Ont. POK 1N0

Credits Requested per Each Claim in Columns at right

Table with columns: Special Provisions, Man Days, Airborne Credits, Geophysical, Geological, Geochemical, Days per Claim. Includes notes on survey days and special provisions.

Mining Claims Traversed (List in numerical sequence)

Table with columns: Mining Claim Prefix, Mining Claim Number, Expend. Days Cr. Includes a 'RECEIVED' stamp dated DEC 18 1984 and MINING LANDS SECTION.

Expenditures (excludes power stripping)

Type of Work Performed
Performed on Claim(s)
Calculation of Expenditure Days Credits: Total Expenditures \$ / 15 = Total Days Credits

Instructions: Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Date Nov 26, 1984
Recorded Holder or Agent (Signature)

For Office Use Only
Total Days Cr. Recorded 240
Date Recorded NOV 27 1984
Date Approved as Recorded Dec 24/84
Mining Recorder
Branch Director

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying: F.J. Evelegh, P.O. Box 610 Matheson, Ontario POK 1N0

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

Corrections made _____

RADIOMETRIC

Instrument Sharpe's GIS-2 Gamma Ray Integrating Spectrometer

Values measured Total - Uranium +Thorium - Thorium, in counts per second

Energy windows (levels) 0.30 1.7 2.5 MeV

Height of instrument ground level Background Count 4.0 - 0.8 - 0.8

Size of detector 2" x 2" sodium iodide crystal

Overburden sand, boulders, till, swamp deposits
(type, depth - include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

Additional information (for understanding results) _____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____
(specify for each type of survey)

Accuracy _____
(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey

Number of Stations 696 Number of Readings 2,088
Station interval 50' Line spacing 150' & 300'
Profile scale ---
Contour interval 5.0 c.p.s.

MAGNETIC

Instrument _____
Accuracy - Scale constant _____
Diurnal correction method _____
Base Station check-in interval (hours) _____
Base Station location and value _____

ELECTROMAGNETIC

Instrument _____
Coil configuration _____
Coil separation _____
Accuracy _____
Method: Fixed transmitter Shoot back In line Parallel line
Frequency _____
(specify V.L.F. station)
Parameters measured _____

GRAVITY

Instrument _____
Scale constant _____
Corrections made _____
Base station value and location _____
Elevation accuracy _____

INDUCED POLARIZATION RESISTIVITY

Instrument _____
Method Time Domain Frequency Domain
Parameters - On time _____ Frequency _____
- Off time _____ Range _____
- Delay time _____
- Integration time _____
Power _____
Electrode array _____
Electrode spacing _____
Type of electrode _____

Mining Lands Section

File No 27583

Control Sheet

TYPE OF SURVEY

GEOPHYSICAL
 GEOLOGICAL
 GEOCHEMICAL
 EXPENDITURE

MINING LANDS COMMENTS:

LD

Dacca
Signature of Assessor

19/12/84
Date